SCOPE OF WIRELESS TELEGRAPHY SPREADS FAST!

MARCONI STATION AT SAGAPONACK

Titanic Disaster Calls Attention to the Achievements of Recent Years and Plans for the Future

FARS ago a fanciful writer took service. Of this project the Western his readers on an expedition to Union Company says: perished there years before.

To-day the fancy of the novelist has become a fact of science. The air is filled with messages that may be heard by any one who has the simple means that are requisite. The man who stands in the noisy crowd of the city and the lonely sheep herder on a fenceless Australian prairie are alike surrounded by them, and it is possible for each to be made conscious of their presence.

This is the accomplishment of wireless. The system of communication without the use of wires to carry the electrical impulses has grown so intimately into the world's business that it takes something out of the ordinary to bring a realization of what is being done and what the outlook is. Wireless was more than ten years old when the ships Republic and Florida collided on January 23, 1969, and the duplicated at the others. jumping spark under the command of the wireless operator instantly made stations many points have had to be conknown that disaster to the world. The sidered. In most cases some sort of wire-Republic, alone in the fog and dark, might have gone to the bottom without news of the disaster being known for days. It was two days after La Bourgogne sank before the story of the catastrophe became known. But a wireless operator, Jack Binns, flashed the news from the Republic to land and drew out of the dark half a dozen rescuing ships.

The story of Jack Binns, the first wireless hero of international fame, spread abroad, and the position of the new method of communication was assured. Wireless had been put to its first great test and passed through it successfully.

Another wireless call flashed out in the darkness two weeks ago sent a thrill around the world. This was the message from the crippled, sinking Titanic It saved the lives of more than 700 human beings. Harold S. Bride, assistant Marconi operator aboard the Titanic, and Harold T. Cottam, operator on the Carpathia-the one who was instrumental in sending the message and the other whose ship brought aid-have become heroes. Before the investigating committee of the Senate the young operators have told their part in the rescue of the

Cottam on the Carpathia explained that he was on duty Sunday night and came off a couple of days later. He sat at his post all Sunday night, all day Mon-day and Monday night and during the day Tuesday. He caught a few hours sleep on Tuesday or Wednesday Young Bride gave his testiof his feet had been frozen.

Their action under the circumstances was one of the things that Cardinal Farley Potomac from Washington and near the referred to when he said that one of the military reservation of Fort Myer. lessons which can be drawn from the Strom Arlington the north Atlantic disaster was the assurance it gave that Ocean can be covered and the naval base part of heroes in any emergency.

More Wireless Projects.

of wireless service, which had already station at San Francisco commenced before the Titanic disaster. At the Brooklyn navy yard the sailors has received a new impetus and the dawn who are to take places in the wireless of the new era, which was predicted long room of the battleships receive a training

the north pole. The explorer had been preceded to the region of perpetual ice by a party that had perished there. The hero of the grams to and from Europe. The agreestory learned this one day when a torch ment provides for the extension of the that he was holding thawed part of a large Marconi system from the Pacific Coast of shaft of ice and there came from this icy prison the voices of the men who had ern Union company wireless transpacific

> This agreement yirtually gives the Western Union Company and its controlling body, the American Telephone and Telegraph Company, a large share of the wireless business. The English Marconi Company is understood to be planning a long distance wireless apparatus for direct communication between New York and London, and it is said that a station near New York would permit messages to be sent to Cuba, Panama and South

> American countries. The Arlington station will have three steel towers arranged in the form of triangle. The aerial wires are to be strung from the talier tower to the other two on either side of it. The installation for transmitting wireless at this station will be

less equipment is already in operation

England and United States to Have Chains of Wireless Stations Half Way Around the World

Hertz loop. Sir Oliver Lodge and William that wireless recruits its best operators." Marconi used the same spark gap and connected one side of it to a copper plate buried in the earth and the opposite side to wires strung in the air. When the apparatus was constructed in this way the electric spark caused oscillations on the was very clear to the operators, but they aerial wires and created a wave that could were not entirely sure what the letters

that carry the messages. The usual selves and are simply agreed code signs. length of the electromagnetic waves used. The call C Q D is made by the symbols receiver to catch the messages from a would look like this: particular station and exclude others.

To prevent interference each ship installation operates on a different wave dot, dot; O: dash, dash, dash; S: dot, either on the ships or the land stations are

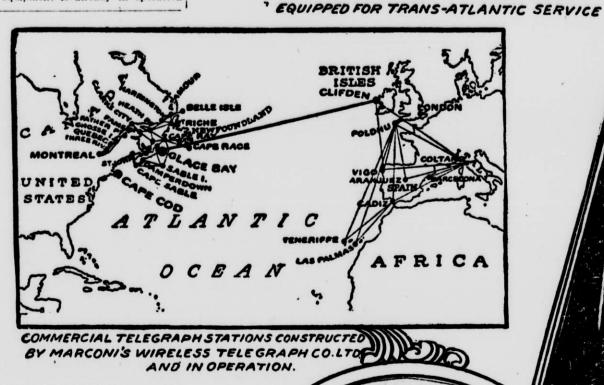
Dr. Hertz found that the presence of these waves could be detected across a serious. In the first place few of these room by means of a loop of copper wire. amateurs have sending sets, which are This was called the Hertz loop. The ends expensive. The receiving sets do not of this loop of wire were slightly parted cost so much money and so messages and it was found that the electric spark are more often picked out of the air than on one side of the room caused a small they are sent into it by these free lances, spark to pass between the ends of the and it is from this corps of youngsters

CQD and SOS. be detected at a considerable distance. themselves meant. Inquiries at the Mar-The modern wireless station has appliances to regulate the length of the waves the letters have no significance in them-

aboard ship varies between 1,000 and for the letters. C is dash, dot, dash, dot; 1,800 feet. The variation in the wave Q is dash, dot, dash; D is dash, dot, lengths makes it possible for a wireless dot. The written danger call of the deep

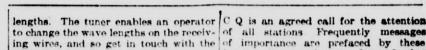
length and the receiving instruments dot, dot and looks like this: . . .

able to cut in or tune in on those various. The C Q D sign is a Marconi symbol.



at these stations and the advisability of erecting the larger plants has depended mony sitting in an invalid s chair for one to a great measure on the success of those already working. This is evidenced by the Arlington station, which is across the

men could be depended upon to play the at Guantanamo, Cuba, is within its radius, as is also San Francisco. This, it is pointed out, brings the Canal Zone into direct communication with Washington. The The movement to increase the scope Pacific coast will be dominated by the



STATION.

office that is calling. Wireless Man's Touch.

There is more secrecy in wireless teleg- less operator understands these calls. raphy than in ordinary telegraphy, as In some of the foreign ships, where a writer in Wireless News explains. click of a telegraph sounder is familiar is customary to write the symbols of the to all. Any operator can stand several message and have them translated. feet distant from one of these sounders | Authorities do not agree as to the deand read all that is being said.

The signals are for the operator's ear at the Marconi offices that their high only, and usually these signals cannot powered stations could quickly tune out be heard six inches away from the head an amateur; that the station at Sea Gate telephones. Therefore the secrecy of is very little bothered by them, but they the wireless message rests entirely with understood that the constant chatter of the operator. In wire telegraphy com- youthful wireless men is a great nuisance munications which are intended to be at the Brooklyn navy yard.

Private are sent in code, and the same Navy men have said that some measurements.

at a wireless station, and the reader may the Government's service. It has also now imagine himself sitting beside the been hinted that some of the false meswireless operator in a station in the vicin- sages received prior to the docking of ity of New York city. By means of the Carpathia were the work of amateurs. switches and sliding contacts he throws Some believe that the amateur should

the steamship Vasari is 1,680 miles south be graduated by the power of the stations.

miles off the coast of Florida calls the in this country. The capital invested operator, saying he has several messages in the provisional enterprise can only which he then despatches to a land sta- be estimated and figures run from fifty tion in the order in which they were filed, to one hundred millions. How much Such communication is kept up con- ambitious youngsters have put into stantly, and by manipulation of the tuner their wireless stations one can only guess. the operator may keep in communication | New York city bristles with amateur with all points within a 1,600 miles.

about wireless sending as there is in and notice the number that you can see telegraphic communication," explained in Harlem. There are just as many in the other parts of Manhattan.

D means danger. It was further stated that S O S was adopted by the Berlin convention in 1902. Every wire-The the operators do not speak English, it

gree of interference that the amateur It is not so in wireless telegraphy. wireless man may cause. It was said

s done in wireless telegraphy.

It is always interesting to "listen in" from mixing up their trivialities with his receiver on to a ship's wave length. be legislated out of existence. Presently he hears a buzz and from men think that amateurs should be far off at sea comes the report, carried limited to a machine throwing a short by these invisible waves, as follows: wave length. Another opinion is that *8 P. M. Uvr. 1,680 So. Hook," which, every amateur station should be licensed. being translated, means that at 8 P. M. and that if a fee is to be required it should

of Sandy Hook. The operator immediately There are said to be 4,000 Government O. K s this report, entering it on his log. wireless operators, 3.000 commercial Another buzz starts: A ship many operators and 75,000 wireless amateurs wireless acrials. Take a ride on the "There is just as much individuality Sixth avenue elevated railroad some day

Wireless News. "It is well known that It does not cost very much for a boy or an expert telegrapher can pick out the set of youngsters to fit up a wireless remessages of his friends merely by their ceiving station. The sending end of it, way of sending them, and the same thing costs more. Boys talk to each other from these stations. A couple of years "Each station and each operator can ago W. E. D. Stokes, Jr., sat in his wireless

the number doubled within two years. Some scientists, and among them Nicola hese wires and diffused in waves. space at a tremenduous rate of speed. nize their friends fists. Such an operator mission hangs on these boys. From them "These waves have definite length. This speed has been reckoned at 186,000 would look up and say There is Carter will come the operators of another genera-

WIRELESS STATION. SIASCONSET, MASS. WHICH RECEIVED THECALLFROM AERIAL OF LAND THE SINKING STATION. REPUBLIC. Maria (1) TAHING A WIRELESS 70 BE MESSAGE IMMEDIATELY CON STRUCTED BY MARCONI'S WIRELESS TELEGRAPH CO. LTD. FOR THE .
IMPERIAL TELEGRAPH SERVICE

Western Umon a transpacific wireless a short course in the ground work of electication until the power of the sending station. The these force lines went through space in way of sending.

refore the loss of the Titanic, has been in their work. For this branch of the trical equipment. He starts at the blackservice a building 300 feet long, 50 feet wide smith shop, where he learns to build a In England the Government has entered and two stories high has been set apart. fire properly. Then he is taught forging, a contract which will result in a sys- The course in wireless proper takes seven | welding and tempering iron and steel tem for connecting every part of the Brit- weeks. The first week is given over to and instructed in the use of soldering

ish Empire. Arrangements are already the study of the theory of wireless com- irons. In the machine shop he practises in progress and in due course a system munication and the next week sees the on the lathe, shaper, drill press, milling in progress and in due course a system will be started, it was said in Parliament, while be started, it was said in Parliament, which will be started, it was said in Parliament, pupil at a sending key studying and practically machine, emery wheel and bench.

Engine work follows, for the naval electrician is expected to be competent.

stern Australia and from Western in making diagrams of transmitting sets oil and gasolene engines are taken apart tralia to New Zealand, forming a and aerials and tries his hand at repairing and assembled, lined up and repaired. the other side of the world. Official At the end of the seventh week if he is pumps are mastered. There is also at jublications say that the agree- able to send and receive fifteen words a three weeks instruction in the work of ment concluded with the British Govern- minute he is stationed at a receiving booth, interior communication and lighting of a will be followed by others of a similar where he can have actual experience. ship which teaches the student how to that are strung on poles called aerials.

ompany which will afford the up by the students each one goes through student is not ready to take up the actual which can be determined partly through miles a second. It was also learned that on the wire' from recognizing the man's tion who will push wireless to still greater

o, from Ceylon to the Straits Settle- | During the seven weeks of the wireless to repair any part of the ship's electrical the strength of the extension of the final examination.

The surface of the extension of the final examination.

The surface of the extension of the final examination.

The surface of the final examination of a battleship. The authorities of the navy yard believe that the surface of the sur

machinery that makes the electrical spark put itself in tune to receive wave lengths J. While everybody knows that wireless station and exclude others.'

How Wireless Works.

"When a wireless operator presses a

of metal. These two pieces of metal are tween two poles there were started, in

messages are being sent, it is not generally | Wireless relies on electromagnetic waves as the source of its communication. These waves are sometimes called is true of wireless. Hertzian waves and were made use of

he has first mastered the details of the station that is receiving these is able to of the nature sent out by the sending

space of waves of electromagnetic energy. two years before Dr. Hertz's discoveries. would be just whispered 'tsist, tsist-tsist,' that there were 40,000 wireless operators What these investigators found was and an operator will begin his message in the country then. If he was right, key, a spark jumps between two pieces that when an electric spark jumped be- by the signal for his office.

"But even if that signal was not given connected with long wires, called antennæ, what the scientists call the other, magnetic the experienced men in the stations who Tesia, believe that the future of wireless force lines. These force lines detached have gossiped and talked with each other communication and the hope of the com-Two weeks are allowed for review before install and inspect the entire electrical The energy from this spark is spread on through thro

appreciably hastened, experts say.

understood how this is done.

"To strip wireless of its technicalities for the first time in 1830 by Prof. Amos usually be detected. The wireless speaks room on the sixteenth floor of the Hotel and boil it down to the primal constituents. Dolbear of Tufts College. He applied for is not hard," said an expert who has made a patent on a wireless system that had operator. Sometimes the listener at the powered station worked. He was called from the Straits Settlements to training the pupil receives instruction equipment. Simple, compound, turbine, a study of the theory and knows the prac-"It is simply transference through day. He got his patent in 1886, which was zang-zang,' and the next man's message limited, and was then quoted as saying